

IN THE CLAIMS:

Amend claims 1, 2, 5, 7-11, 14 and 16-18, and cancel claims 4, 6, 13, 15, 19 and 20 without prejudice or admission as shown in the following listing of claims, which replaces all previous listings and versions of claims.

1. (currently amended) An overload prevention device for an auger transmission of a snow removing machine for preventing an excessive load from acting on a power train of the auger transmission from an engine to an auger and an auger shaft of the snow removing machine, the overload prevention device comprising:

a worm wheel meshing with a worm formed on an input shaft of the auger transmission, the worm wheel having a plurality of wheel protrusions formed at a side surface thereof;

a cylindrical member integrally connected to the auger shaft and engaging with the worm wheel for rotation therewith over a predetermined torque range and for rotation relative thereto when a predetermined torque is exceeded;

a generally disk-shaped member disposed adjacent to the worm wheel for restricting a rotating angle of the cylindrical member, the disk-shaped member having a plurality of generally disk-shaped protuberances facing the wheel protrusions of the worm wheel;

a detector for outputting a detection signal each time the detector detects movement of the disk-shaped member away from the side surface of the worm wheel when the protuberances of the disk-shaped member ride on the wheel protrusions of the worm wheel responsive to rotation of the cylindrical member and the worm wheel relative to one another, the detector having an ON state corresponding to a state during which the detector outputs the detection signal and an OFF state corresponding to a state during which the detector does not output the detection signal; and

a control ~~unit, for~~ unit for stopping operation of the engine when the detector outputs the detection signal a preselected number of times within a preselected time ~~period.~~ period; and

a stopper member for temporarily stopping movement of the disk-shaped member to restore the detector to the OFF state from the ON state.

2. (currently amended) An overload prevention device for an auger transmission of a snow removing machine for preventing an excessive load from acting on a power train of the auger transmission from an engine to an auger and an auger shaft of the snow removing machine, the overload prevention device comprising:

a worm wheel meshing with a worm formed on an input shaft of the auger transmission, the worm wheel having a

plurality of wheel protrusions formed at a side surface thereof, according to claim 1; wherein each of the wheel protrusions of the worm wheel has having a top portion having a planar surface extending in a direction generally perpendicular to an axis of rotation of the worm wheel. wheel;

a cylindrical member integrally connected to the auger shaft and engaging with the worm wheel for rotation therewith over a predetermined torque range and for rotation relative thereto when a predetermined torque is exceeded;

a generally disk-shaped member disposed adjacent to the worm wheel for restricting a rotating angle of the cylindrical member, the disk-shaped member having a plurality of generally disk-shaped protuberances facing the wheel protrusions of the worm wheel;

a detector for outputting a detection signal each time the detector detects movement of the disk-shaped member away from the side surface of the worm wheel when the protuberances of the disk-shaped member ride on the wheel protrusions of the worm wheel responsive to rotation of the cylindrical member and the worm wheel relative to one another; and

a control unit for stopping operation of the engine when the detector outputs the detection signal a preselected number of times within a preselected time period.

3. (previously presented) An overload prevention device according to claim 2; wherein each of the protuberances of the disk-shaped member comprises a first louver-shaped portion and a second louver-shaped portion; and wherein a distance between confronting tip portions of the first and second louver-shaped portions is shorter than a length of the planar surface of the top portion of the wheel protrusion.

4. (canceled).

5. (currently amended) An overload prevention device for an auger transmission of a snow removing machine for preventing an excessive load from acting on a power train of the auger transmission from an engine to an auger and an auger shaft of the snow removing machine, the overload prevention device comprising:

a worm wheel meshing with a worm formed on an input shaft of the auger transmission, the worm wheel having a plurality of wheel protrusions formed at a side surface thereof;

a cylindrical member integrally connected to the auger shaft and engaging with the worm wheel for rotation therewith over a predetermined torque range and for rotation relative thereto when a predetermined torque is exceeded;

a generally disk-shaped member disposed adjacent to the worm wheel for restricting a rotating angle of the cylindrical member, the disk-shaped member having a plurality of generally disk-shaped protuberances facing the wheel protrusions of the worm wheel;

a detector for outputting a detection signal each time the detector detects movement of the disk-shaped member away from the side surface of the worm wheel when the protuberances of the disk-shaped member ride on the wheel protrusions of the worm wheel responsive to rotation of the cylindrical member and the worm wheel relative to one another;
and

a control unit for stopping operation of the engine when the detector outputs the detection signal a preselected number of times within a preselected time period;

~~according to claim 1; wherein~~ wherein the control unit comprises a signal processing circuit for receiving and processing the detection signal from the detector, a control integrated circuit for controlling operation of the engine in accordance with a signal from the signal processing circuit, a reset timer initiated by a command signal from the control integrated circuit when the signal processing circuit receives the detection signal from the detector, and an engine stopping circuit for stopping operation of the engine in accordance

with a control signal from the control integrated circuit when the detection signal of the detector is outputted a preselected number of times within the preselected time period.

6. (canceled).

7. (currently amended) An overload prevention device according to claim ~~6~~; further 1; further comprising a biasing member for biasing the stopper member in the direction of the disk-shaped member.

8. (currently amended) An overload prevention device according to claim ~~6~~; wherein 1; wherein the stopper member is mounted for undergoing sliding movement in a direction generally perpendicular to the side surface of the worm wheel.

9. (currently amended) An overload prevention device according to claim ~~6~~; wherein 1; wherein the stopper member is slidably received in a transmission case of the auger transmission.

10. (currently amended) In combination with a snow removing machine having an engine, an auger, and an auger transmission for transmitting power from the engine to the auger, an overload prevention device for preventing an

excessive load on the auger transmission, the overload prevention device comprising:

a first rotational member connected to be rotationally driven by an input shaft of the auger transmission, the first rotational member having a plurality of protrusions formed at a surface thereof;

a second rotational member engaging the first rotational member for rotation therewith over a predetermined torque range and for rotation relative thereto when a predetermined torque is exceeded;

a movable member mounted adjacent to the first rotational member for undergoing movement to restrict a rotating angle of the second rotational member, the movable member having a plurality of protuberances for engagement with the protrusions of the first rotational member;

a detector for outputting a detection signal each time the detector detects movement of the movable member in a direction away from the first rotational member when the protuberances of the movable member engage the protrusions of the first rotational member responsive to rotation of the second rotational member and the first rotational member relative to one another, the detector having an ON state corresponding to a state during which the detector outputs the detection signal and an OFF state corresponding to a state

during which the detector does not output the detection signal; and

a control unit for stopping operation of the engine when the detector outputs the detection signal a preselected number of times within a preselected time ~~period~~, period; and

a stopper member for temporarily stopping movement of the third rotational member to restore the detector to the OFF state from the ON state.

11. (currently amended) In combination with a snow removing machine having an engine, an auger, and an auger transmission for transmitting power from the engine to the auger, an overload prevention device for preventing an excessive load on the auger transmission, the overload prevention device comprising:

a first rotational member connected to be rotationally driven by an input shaft of the auger transmission, the first rotational member having a plurality of protrusions formed at a surface thereof, A combination according to claim 10; wherein each of the protrusions of the ~~movable member has~~ having a portion having a planar surface extending in a direction generally perpendicular to an axis of rotation of the first rotational ~~member~~, member;

a second rotational member engaging the first rotational member for rotation therewith over a predetermined

torque range and for rotation relative thereto when a predetermined torque is exceeded;

a movable member mounted adjacent to the first rotational member for undergoing movement to restrict a rotating angle of the second rotational member, the movable member having a plurality of protuberances for engagement with the protrusions of the first rotational member;

a detector for outputting a detection signal each time the detector detects movement of the movable member in a direction away from the first rotational member when the protuberances of the movable member engage the protrusions of the first rotational member responsive to rotation of the second rotational member and the first rotational member relative to one another; and

a control unit for stopping operation of the engine when the detector outputs the detection signal a preselected number of times within a preselected time period.

12. (previously presented) A combination according to claim 11; wherein each of the protuberances of the movable member comprises a first louver-shaped portion and a second louver-shaped portion; and wherein a distance between confronting tip portions of the first and second louver-shaped portions is shorter than a length of the planar surface of the top portion of the first rotational member.

13. (canceled).

14. (currently amended) In combination with a snow removing machine having an engine, an auger, and an auger transmission for transmitting power from the engine to the auger, an overload prevention device for preventing an excessive load on the auger transmission, the overload prevention device comprising:

a first rotational member connected to be rotationally driven by an input shaft of the auger transmission, the first rotational member having a plurality of protrusions formed at a surface thereof;

a second rotational member engaging the first rotational member for rotation therewith over a predetermined torque range and for rotation relative thereto when a predetermined torque is exceeded;

a movable member mounted adjacent to the first rotational member for undergoing movement to restrict a rotating angle of the second rotational member, the movable member having a plurality of protuberances for engagement with the protrusions of the first rotational member;

a detector for outputting a detection signal each time the detector detects movement of the movable member in a direction away from the first rotational member when the protuberances of the movable member engage the protrusions of

the first rotational member responsive to rotation of the second rotational member and the first rotational member relative to one another; and

a control unit for stopping operation of the engine when the detector outputs the detection signal a preselected number of times within a preselected time period;

~~A combination according to claim 10; wherein~~ wherein the control unit comprises a signal processing circuit for receiving and processing the detection signal from the detector, a control integrated circuit for controlling operation of the engine in accordance with a signal from the signal processing circuit, a reset timer initiated by a command signal from the control integrated circuit when the signal processing circuit receives the detection signal from the detector, and an engine stopping circuit for stopping operation of the engine in accordance with a control signal from the control integrated circuit when the detection signal of the detector is outputted a preselected number of times within the preselected time period.

15. (canceled).

16. (currently amended) A combination according to claim 15; ~~further~~ further comprising a biasing member for biasing the stopper member in the direction of the movable member.

17. (currently amended) A combination according to claim ~~15; wherein~~ 1; wherein the stopper member is mounted for undergoing sliding movement in a direction generally perpendicular to the surface of the first rotational member at which the protrusions are formed.

18. (currently amended) A combination according to claim ~~15; wherein~~ 1; wherein the stopper member is slidably received in a transmission case of the auger transmission.

19. - 20. (canceled).

ADDITIONAL FEES:

Submitted herewith is a check in the amount of \$600.00 to cover the additional fee for three (3) extra independent claims in excess of those already paid for. Should the check prove insufficient for any reason or should an additional fee be due, authorization is hereby given to charge any such deficiency or additional fee to our Deposit Account No. 01-0268.